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| 09/938,698 | 08/23/2001 | Sashiro Uemura | 96790p375 | 1775 |

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EXAMINER

BERCK, KENNETH A

ART UNIT PAPER NUMBER

2879

DATE MAILED: 01/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/938,698

Applicant(s)

SASHIRO UEMURA

Examiner

Ken A Berck

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9 and 10 is/are allowed.
- 6) ☒ Claim(s) 1-6 and 11 is/are rejected.
- 7) ☒ Claim(s) 7 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

The Amendment filed 9/11/2003 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sashiro et al. (JP 2000-149765) in view of Kobayashi et al. (US 4568852).

Regarding claims 1 and 11, Sashiro discloses (fig 1) a vacuum fluorescent display with a cathode electrode (106c) a grid electrode (106e), an anode electrode (105a), at least one envelope (110) which accommodates the electrodes in a vacuum space with a display portion (102), a phosphor layer (104) formed on an inner surface of the display portion of the envelope, and a cap supported outside the envelope (top) so as to surround the display portion of the envelope through a gap, having a light exit surface and having a cylindrical-shaped bottom to cover the display portion of the envelope and a side surface of the envelope (inside side surface).

Sashiro fails to clearly point out the cap being made of an X-ray shielding material.

Kobayashi discloses a CRT with coolant and reduced X-ray emission with a glass panel (19) made of an X-ray shielding material in order to prevent X-ray leakage and blackening phenomenon caused by overheating.

Hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the display of Sashiro with the CRT with coolant and reduced X-ray emission with a glass panel (19) made of an X-ray shielding material in order to prevent X-ray leakage and blackening phenomenon caused by overheating, as taught by Kobayashi.

Regarding claims 2 and 5, Sashiro discloses all of the above claim limitations but fails to clearly point out the cap being made of lead glass.

Kobayashi discloses (column 4, lines 20-33) the cap being made of lead glass in order to reduce the thickness without danger of X-ray passing through.

Hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the display of Sashiro with the cap being made of lead glass in order to reduce the thickness without danger of X-ray passing through, as taught by Kobayashi.

Regarding claim 3, Sashiro discloses all of the above claim limitations but fails to clearly point out a cooling liquid sealed in the gap.

Kobayashi discloses (column 3, lines 65-68) a cooling liquid sealed in the gap in order to avoid deterioration of the brightness.

Hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the display of Sashiro with a cooling liquid

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sealed in the gap in order to avoid deterioration of the brightness, as taught by Kobayashi.

Regarding claim 4, Sashiro discloses the cathode electrode contains carbon nanotubes (fig 2).

Regarding claim 6, Sashiro discloses all of the above claim limitations but fails to clearly point out the cap surrounding the envelope entirely.

Kobayashi discloses (fig 2) the cap surrounding the envelope entirely (18) in order to radiate heat from the liquid.

Hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the display of Sashiro with cap surrounding the envelope entirely in order to radiate heat from the liquid, as taught by Kobayashi.

Allowable Subject Matter

Claims 7-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 7, the prior art of record neither shows nor suggests a display with an envelope with a stem which has an outer diameter slightly larger than the envelope and a portion between a tip of an opening of the cap and envelope is sealed by the stem, in combination with other claim limitations.

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Regarding claim 8, the prior art of record neither shows nor suggests a display with an envelope with a stem made of elastic material, which has an outer diameter slightly larger than the envelope and a portion between a tip of an opening of the cap and envelope is sealed by the stem, in combination with other claim limitations.

Claims 9-10 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding claim 9, the prior art of record neither shows nor suggests a vacuum fluorescent display with an envelope with a stem made of elastic material, which has an outer diameter slightly larger than the envelope and a portion between a tip of an opening of the cap and envelope is sealed by the stem, a cap made of an X-ray shielding material and supported outside the envelope so as to surround the display portion of the envelope through a gap and the cap surrounds the envelope entirely, in combination with other claim limitations.

Regarding claim 10, the prior art of record neither shows nor suggests a vacuum fluorescent display with a cap made of an X-ray shielding material and supported outside the envelope so as to surround the display portion and the envelope comprises a plurality of envelopes corresponding to a plurality of colors and the cap surrounds display portion of the plurality of envelopes all together, in combination with other claim limitations.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should

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preferably accompany the issue fee. Such submissions should be clearly labeled

"Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ken A Berck whose telephone number is (703)305-7984. The examiner can normally be reached on Mon-Fri 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703)305-4794. The fax phone number for the organization where this application or proceeding is assigned is (703)308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.


kab

Joseph Williams
